



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NESTING NOTES ON THE AMERICAN EARED GREBE AND PIED-BILLED GREBE

By ROBERT B. ROCKWELL

WITH FIVE PHOTOS BY THE AUTHOR

IT WOULD be difficult indeed to name a family of common North American birds which presents more unusual peculiarities in habits and structure than does the grebe family. Queer in structure, almost helpless on land, never leaving the water except during migration, and biding a floating nest upon the water, where the eggs are hatched largely by the aid of the sun's rays, these peculiar little spirits of the water present a very radical departure from what the word "bird" usually brings to mind. This is particularly true in a semi-arid country



Fig. 59. NEST AND EGGS OF AMERICAN EARED GREBE: A FLAT STRAGGLING AFFAIR OF FLIMSY CONSTRUCTION

such as Colorado, where suitable habitats are scarce and where the few families of similar birds are not found. It was therefore with a great deal of interest that, in company with Mr. L. J. Hersey, I studied the habits of these birds for three summers among the Barr Lakes near Denver.

The first birds made their appearance about the middle of April (April 14 is my earliest record) but did not become common until shortly after May 1. The earliest nests were noted May 10 (1907) and 11 (1908), nests of the American Eared (*Colymbus n. californicus*) and Pied-billed (*Podilymbus podiceps*) Grebes being equally abundant; but as the season advanced we found that the Pied-billed Grebes were nesting in far greater numbers than were their cousins.

The Eared Grebes' nests were easily distinguishable by the flimsy and apparently careless manner in which they were constructed, being very slight, strag-

gling platforms of large, rank, green dock stems, cat-tail stalks, rushes, weeds and grass, usually floating in comparatively open water, or in very sparse growths of cat-tails, with no apparent attempt at concealment. The nests were very flat, the nest cavity often being actually below water level, and the eggs in most cases being wet. How these eggs with damp shells retained enuf heat either from the parent or from the sun's rays to hatch them, is a problem which I have been unable to solve. And as a matter of fact quite a perceptible percent of old nests examined contained addled eggs. This was equally true of both species.

The Pied-bills' nests, on the other hand, were compactly-bilt structures of uniform size and shape, composed entirely of decaying vegetation of a uniform dead brown color, well bilt up above the surface of the water and fairly well cupt. They were nearly always bilt in a rather dense growth of cat-tails which afforded them reasonable concealment, altho a few exceptions were noted where nests had been bilt in exposed positions at the edge of open water with no concealment whatever.

Both species seemed to choose sites where the water was from two to three feet



Fig. 60. NEST OF AMERICAN EARED GREBE SHOWING CARELESS MANNER IN WHICH EGGS ARE COVERED BY PARENT BIRDS

deep, but this was probably due to the fact that suitable cover grew in this depth of water.

As has been said, the nests of the two birds were radically different in appearance, and this was further exemplified in the manner in which the eggs were covered during the absence of the parents. The Eared Grebes usually covered the eggs very carelessly with a thin layer of grass or rushes, and in many cases the eggs could easily be seen thru the covering. The Pied-bills, on the contrary, covered their eggs very carefully with a thick layer of moist decaying vegetation of the same appearance as the nest proper, spreading it evenly over the top of the nest to a depth of two inches or more; and the nest so covered presented a remarkable example of protective concealment, looking exactly like the water-soakt tops of dilapidated musk-rat houses. In fact, I smile to think of the number of these uninteresting looking mounds of filth, which I must have past unheedingly before I discovered the secret of their hidden treasures.

In the large number of nests examined we found from one to eight eggs, but I am inclined to believe that four is about the smallest number constituting a full set, while six (or possibly seven) is the maximum number laid by the Eared Grebes. The few sets of eight found were those of the Pied-bill, and one nest contained five eggs on the point of hatching and four chicks just out of the shell. (A set of this species in my collection collected near Chicago by Mr. Gerard Alan Abbott contains nine eggs.) The eggs of both species when first laid were a clear bluish white, the bluish tint being much more pronounced in the Eared Grebes' eggs, but the original color was promptly reduced to a dirty brown by contact with the decomposing nest material. Eggs of the Eared Grebes averaged a trifle longer than those of the Pied-bills, but the difference could not be detected without measuring.



Fig. 61. NEST OF PIED-BILLED GREBE SHOWING CAREFUL MANNER
IN WHICH EGGS ARE COVERED BY PARENT BIRDS

In several nests which were carefully watcht, one egg was deposited each day, but as to whether incubation commenced when the first egg was laid, we were unable to decide. In one or more instances where the first set had been destroyed a second set was deposited in the same nest after a lapse of about a week, and a nest containing one fresh egg was found as late as July 6.

The great majority of nests were discovered during the heat of the day, when the eggs were covered and the parents were far out on the lake; but several times we surprized the parent birds near the nests and had excellent opportunities to study their actions. Some would swim rapidly away repeating the wheezing grebe call note until out of sight. Others would swim back and forth a few yards out of reach giving a rasping cry of protest; and a very few birds exhibited markt evidence of excitement, feigning a broken wing, uttering hoarse crys, and beating the water

with their wings to attract our attention away from the nests. These demonstrations were, however, confined entirely to the Pied-bills, the Eared Grebes exhibiting little or no interest in their nests.

By the third week in May the great majority of nests contained full complements of eggs, and one set of eggs was hatching on May 18. During the early part of June sets of eggs and broods of newly hatcht young were equally abundant, and by June 20 a large majority of the eggs had hatcht.

The freshly hatcht young were very pretty little fellows covered with black down, broadly streakt with whitish stripes running lengthwise of the head and body, giving them a somewhat sinuous appearance when in the water. They evidently take to the water as soon as hatcht, and are wonderfully active and quick.



Fig. 62. THE SAME NEST AS IN FIGURE 61 WITH COVERING REMOVED SHOWING EGGS

A baby grebe half the size of a chick can swim as fast as a man can wade thru the water comfortably, and the distance they can swim under water at this tender age is surprising. They hide very effectively by diving and coming up to the surface under tiny bits of floating moss or rubbish, where they lie perfectly still with only the tips of their tiny bills exposed above the water. Their feet are abnormally large, which probably accounts for their remarkable swimming ability, and when quiet in the water the feet and head float on the surface, the rest of the body being submerged. The only note of the young grebe is very similar to the "cheep" of the domestic chick, first heard when the egg is pipt—very weak and tiny at first, but growing in strength and power as the bird becomes larger, until by the time the young are three-fourths grown the note is quite loud and clear.

The young birds have a peculiar habit of riding on the back of the parent birds. This is apparently done for the purpose of imaginary protection to the young, as we only observed it when broods of young were surprized close to the shore, and were seeking safety in the middle of the lakes. At such times the parent would swim close alongside the young bird and by raising the fore part of the body out of the water would submerge the posterior portion, upon which the youngsters would scramble with alacrity. The wings of the parent were then raised something after the fashion of a brooding hen, and often several babies would be cuddled comfortably beneath them. It was quite comical to see a well laden parent bird attempt to take on an additional chick, as this often precipitated the entire brood into the water, and this was always the signal for a wild scramble back on "board ship", during which rather strenuous performance the doting parent was the victim of an animated mauling. This additional weight on the parents' back



Fig. 63. NEST AND YOUNG OF PIED-BILLED GREBE

did not seem to affect their swimming powers, and the speed with which a mother grebe carrying a half a dozen babies could leave danger behind was surprizing.

During the first week in July broods of young grebes were very much in evidence on all the lakes and ponds, trailing along thru the water after the parents in single file. The broods ranged in size from freshly hatcht babes half the size of a tiny chick to ungainly three-fourths grown youngsters, and many times mixt broods of two or three sizes were seen swimming about together.

Broods of young grebes continued to increase in abundance and were very conspicuous on all the lakes and ponds thruout the second and third weeks of July, after which time they gradually decrest in numbers; and the last birds noted were seen October 3, some little time after the bulk of the species had left for their winter homes.

On July 6, 1907, we had several distinct views of an albino Pied-billed Grebe,

which, so far as we could discern, was entirely snow white. The bird was evidently aware of its conspicuous coloration, and was very wild. Several determined efforts to secure the specimen were made, but the bird succeeded in keeping out of gun range.

THE BREWER SPARROW (*SPIZELLA BREWERI*) IN FRESNO COUNTY, CALIFORNIA

By JOHN G. TYLER

DURING the early part of May, 1906, the writer became aware of the presence of one or more small sparrows in a certain vineyard near Clovis, Fresno County, California. Their wiry, insect-like song was often heard, generally during the early forenoon, as the bird swayed in the breeze far out on a green tendril of some vine. Any attempt at a near approach would cause the singer to disappear and remain silent for a few minutes, when it would again appear at some distant part of the vineyard.

The area frequented by these birds was not large, covering only about eight acres, but different from other vineyards in the vicinity in having a decided slope to the south on one side, the soil being rather coarse and gravelly. Supported by stakes averaging about two feet in height, some of the vines had made a very rank growth and formed almost a small thicket in certain places, while in others where the growth was not so dense there were more open patches.

The birds were seen at frequent intervals after their first appearance, but as they seemed shy, and other matters claimed the writer's attention, their identity remained a matter of doubt for some time, until an almost accidental discovery confirmed a rather strong suspicion that had been formed soon after they were first noted.

Shortly before noon on June 4 while passing thru the vineyard a small bird was seen to fly apparently from a small vine and after skimming along above the ground shrike-fashion for a few feet, disappear in the screen of heavy foliage. Thinking this was only the nest of one of the numerous Western Lark Sparrows that were breeding commonly everywhere, I paused only to note the number of eggs or young but was somewhat surprised that a hurried search did not reveal any nest either on the ground beneath the vine or among the branches above. So a careful search was begun which resulted in the discovery of a very small and remarkably well-bilt nest placed directly against the stake and supported by three nearly vertical shoots just twenty inches above the ground. Resting in this nest were three green eggs similar in size and color to average specimens of the Western Chipping Sparrow, yet with a more coarse wreath of heavier markings of a decided reddish brown encircling the larger end. It required little more than a glance to convince the writer that it was not a nest of *Spizella passerina arizonæ* altho even had it afterwards proven to be such it would have been none the less a new record for me from Clovis.

The following day proved to be somewhat warm and cloudy and just at noon I cautiously approacht the vine containing the nest discovered the day before and very carefully parted the leaves. Sitting quietly on her nest, not two feet from my hand, was a small grayish-brown sparrow. The parallel black lines along her